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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/494,780	01/31/2000	Stefan Bahrenburg	GR 97 P 8073	3930

7590 10/31/2003

Lerner & Greenberg PA
Post Office Box 2480
Hollywood, FL 33022-2480

EXAMINER

PEZZLO, JOHN

ART UNIT	PAPER NUMBER
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2662

19

DATE MAILED: 10/31/2003

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Paper No. 19

Application Number: 09/494,780

Filing Date: 31 January 2000

Appellant(s): Bahrenburg et al.

Mark P. Weichselbaum

For Appellant

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EXAMINER'S ANSWER

This is in response to the appeal brief filed 10 September 2003.

(1) *Real Party in Interest*

A statement identifying the real party in interest is contained in the brief.

(2) *Related Appeals and Interferences*

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) *Status of Claims*

The statement of the status of the claims contained in the brief is correct.

(4) *Status of Amendments After Final*

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

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(5) Summary of Invention

The summary of invention contained in the brief is correct.

(6) Issues

The appellant's statement of the issues in the brief is correct.

(7) Grouping of Claims

Appellant's brief includes a statement that claims 1-4, 6, 9, and 11-15 do not stand or fall together and provides reasons as set forth in 37 CFR 1.192(c)(7) and (c)(8).

(8) Claims Appealed

The copy of the appealed claims contained in the Appendix to the brief is correct.

(9) Prior Art of Record

The following is a listing of the prior art of record relied upon in the rejection of claims under appeal.

5,511,068

Sato

4-1996

(10) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-4, 6, 9, and 11-15 are rejected under 35 U.S.C. 102(b). This rejection is set forth in prior Office Action, Paper No. 14. (Reprinted below)

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DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

I. Claims 1-4, 6, 9, and 11-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Sato (US 5,511,068).

1. Regarding claims 1, 9, and 11 - Santo discloses a radio system which utilizes a TDMA structure and a CDMA code for each time slot (channel) so that multiple radios can communicate at the same time, refer to Figure 2 and column 5 lines 30 to 42. Santo discloses that multiple time slots (multiple channels) can be assigned to the same radio and each time slot can have a variable data rate, refer to Figure 2 and column 4 lines 44 to 67. Santo discloses that each time slot comprises a training sequence, refer to Figure 7 and column 9 lines 34 to 52.

2. Regarding claim 2 - Santo discloses that the training sequence can be same for all the data connections, refer to column 7 lines 43 to 50.

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3. Regarding claim 3 and 4 - Santo discloses that data for multiple channels is superimposed into each slot with equal weighting, refer to Figure 4 and column 5 lines 49 to 67.
4. Regarding claim 6 - Santo discloses that the data rate is variable being more data symbols for a higher rate and less data symbols for lower data rate in a given slot. Therefore with a fixed number of training symbols the mean power per symbol between the training and data symbols will be variable, refer to Figure 2 and column 4 lines 24 to 67 and column 5 lines 1 to 22.
5. Regarding claims 12 and 13 - Santo discloses that the training sequence is a midamble, refer to Figure 7 and column 9 lines 34 to 54.
6. Regarding claims 14 and 15 - Santo discloses that the code is a direct sequence individual spreading code, refer to Figure 3 and column 5 lines 4 to 22.

Allowable Subject Matter

- II. Claims 5, 7, 8, and 10 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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Response to Arguments

Applicant's arguments filed 11 February 2003 have been fully considered but they are not persuasive.

1. Applicants argue that the reference, Sato, US 5,511,068, does not anticipate the claims 1-4, 6, 9, and 11-15. The applicants argue on pages 3 and 4 of the response that Sato does not have two data channels per connection, separate spreading codes per channel, and utilizing the same training sequence for each channel which is different from the training sequences from the other connections. The examiner respectfully disagrees. Sato discloses that the TDMA system utilizes separate time slots per connection wherein a time slot is a channel therefore two time slots is two channels per connection, refer to column 5 lines 30 to 42. Sato discloses that each channel (time slot) utilizes an individual spreading code, refer to Figures 2 and 3 and column 5 lines 4 to 23. Sato discloses that a unique training sequence is used per connection, same training sequence per channel, which is different from the training sequences used in the other connections, refer to Figure 7 and column 9 lines 18 to 52.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date

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of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Pezzlo whose telephone number is (703) 306-5420. The examiner can normally be reached on Monday to Friday from 8:30 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou, can be reached on (703) 305-4744. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C.

or faxed to:

(703) 872-9314

For informal or draft communications, please label "PROPOSED" or "DRAFT"

Hand delivered responses should be brought to:

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Receptionist (Sixth floor)

Crystal Park 2

2121 Crystal Drive

Arlington, VA.

John Pezzlo

1 April 2003

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(11) Response to Argument

Prior to responding to the arguments the examiner would like to map the following terms of the instant application to the terms used in the Sato patent:

Application (09/494,780)

connection

data channel

Reference (Sato, 5,511,068)

channel

time slot

The applicants argue on pages 19 and 20 of the brief that

1. *"Claim 1 includes a step of utilizing for at least two of the data channels of the connection one common training sequence different from the training sequences of other connections."*

"Similarly, claim 11 includes a signal processor using for at least two of the data channels of the connection one common training sequence different from training sequences of other connections."

and on page 21 of the brief, the applicants further argue

2. *"The next point of contention regards the individual spreading code. Claim 1 specifies that the data channels can be distinguished by an individual spreading code. Claim 11 specifies that each data channel can be distinguished by an individual spreading code."*

The examiner will respond to the second point of contention above prior to discussing the first point, individual spreading code for each data channel (individual spreading code for each time slot).

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The examiner references Sato, Figures 2 and 3 and the summary of the invention (column 2 lines 49 to 65) and column 5 lines 4 to 15. The summary of the invention discloses that the preselected spread code lasts for a time slot (a data channel) and column 5 lines 4 to 15 states that the spread code is different for each mobile station ("The spread code generator 41 generates a sequence of spread codes peculiar to the mobile station MS 1"). Based on the fact that the spread code lasts for one time slot and each mobile station has a different spread code, if a mobile is assigned multiple time slots (two data channels), each code for each time slot would be different, which is the method utilized by CDMA to maintain the multiple access between channels and time slots (connections and data channels) and prevent interference. The examiner references column 5 lines 30 to 42 wherein Sato discloses that a mobile station can be assigned multiple time slots (two) in order to increase the data rate (throughput or bandwidth) for communication between the base station and the mobile station. In conclusion, Sato discloses that a mobile station may be assigned at least two time slots (data channels) wherein the spread code lasts for one time slot therefore the time slots (data channels) can be distinguished by an individual spreading code.

The examiner will now respond to the first point of contention above, utilizing for at least two of the data channels of the connection one common training sequence.

The examiner references Sato, Figure 7 and column 9 lines 18 to 34. Wherein Sato discloses that "The training series may have a pattern known in the art and may be formed by a code series peculiar to each channel (connection) so as to distinguish among the channels (connections) which use a common time slot TM." It is very clear from the above that Sato utilizes a training sequence that is common for each

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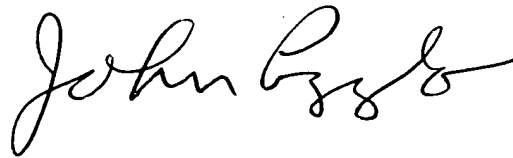
connection and different from all other connections. Sato goes on to disclose that M training sequences can be prepared by shifting the phase to produce a different training sequence for each channel (connection). Therefore, Sato is using the same training sequence for each data channel (time slot) of a given connection (channel) and a different training sequence for each connection (channel).

For the above reasons, it is believed that the rejections should be sustained.

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Respectfully submitted,

JOHN PEZZLO
PRIMARY EXAMINER



28 October 2003

Conferees

Hassan Kizou



Hanh Nguyen

